Date: Thu, 14 Apr 94 04:30:16 PDT
From: Ham-Ant Mailing List and Newsgroup <ham-ant@ucsd.edu>
Errors-To: Ham-Ant-Errors@UCSD.Edu
Reply-To: Ham-Ant@UCSD.Edu
Precedence: Bulk
Subject: Ham-Ant Digest V94 #103
To: Ham-Ant

Ham-Ant Digest Thu, 14 Apr 94 Volume 94 : Issue 103

Today's Topics:

Send Replies or notes for publication to: <Ham-Ant@UCSD.Edu>
Send subscription requests to: <Ham-Ant-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Ant Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-ant".

Date: 13 Apr 1994 14:17:01 -0400
From: hp81.prod.aol.net!search01.news.aol.com!not-for-mail@uunet.uu.net
Subject: ---TUNER ADVICE NEEDED---
To: ham-ant@ucsd.edu

>As for baluns, avoid core baluns at all cost. Use a "ferrite core over coax"
>or what is also known as a W2DU balun--they won't saturate.

Gee, maybe "at all cost" was rather rash, eh?

Transformers of the coupling type usually suffer from limited power handling
and SWR handling problems, besides not yielding a true 1:1 or 4:1 impedance
transformation. The power part can be overcome with multiple cores, but the
SWR and impedance parts are more difficult to overcome, especially if using a

tuner and dipole for multiband operation. The simplest choke balun one could construct is from coiled up coax. It's not terribly broad banded, but does a good job at the right price (cheap). That's mostly Maxwell theory.

Roy Lewallen also demonstrated that current baluns do a better job of forcing equal current in dipole halves than voltage baluns do, which in theory should make a dipole perform better.

In terms of where you put your balun, it should go at the input of the tuner, rather than the output, because it will see more favorable impedances (resistances and reactances) there than at the output.
This is especially important with voltage and coupling baluns, and might even help a choke balun. Again, Maxwell theory.

Whatzit all mean? Well, if using a balanced feeder and a balanced antenna (dipole), your probably best off using a choke balun of some sort at the input to your antenna tuner. We can't always ensure that our dipoles will be perfectly electrically balanced (due to construction), and it would help to have a balun that overcomes the slight imbalance.

Also, if your only measurement of performance is an SWR meter before your tuner, it will read only what it is "given"--if the balun isn't matching impedances well, your low SWR may not indicate a well matched condition. This is most likely not a big problem, however.

What do I do?? Use a cheap choke balun (coax) into an SPC transmatch to ladder line to a 40 meter dipole. I have used it successfully on 160-10 meters. The bottom line is take the information available from a number of sources, think it through, do what you can afford to do and then GET ON THE AIR! You'll have more fun operating and not worrying about this once it's done.

Gee, have i been long-winded??????

73 de JimN0OCT

ENTROPY AINT WHAT IT USED TO BE!

Date: 13 Apr 94 13:34:23 -0600
From: news.larc.nasa.gov!darwin.sura.net!atlas.tntech.edu!jmg@ames.arpa
Subject: 40 meter portable antenna
To: ham-ant@ucsd.edu

In article <1994Apr12.112336.1@acad2.alaska.edu>, auchd@acad2.alaska.edu writes:
> I will be travelling on a business trip down south at the end of this month. I
> am taking my MFJ-9040 with me, along with a lead acid battery for power. I
> would like to take a portable antenna that won't require the use of a tuner,

> but then again, a dipole for 7.125 mhx will probably be to big to use in a hotel room. Does
> anybody have any ideas or suggestions? Wouldn't mind using a trap verticle if
> I had the quick and dirty specs on how to make it.
>
> AUCHD@ALASKA.BITNET
> WL7NO
> James Wiedle
> (Aliases are us....)

For very little money you can make a helically wound vertical from PVC pipe. There was an original article on doing this a while back and I have made MANY of them for people in town. You use 2 five foot sections of PVC with a coupler that allows it to be taken apart. then use a H configuration for the bottom. I have mine setup so I can use it on 3 bands with a 20 second changeover.

Think the original article had 1/4 wave of wire.. I use a bit more than 1/2 wave of wire. Try to make the windings uniform, make sure you wind in the same direction on the top and bottom section.. use a short jumper wire (I use a bolt with wingnut for quick disconnects) to tie the two sections together.

I 2 half wave radials per band. I have a MFJ antenna analyzer and wind up the antenna and then see if I need more or less wire. On 20 meters the antenna covers the whole band. on 40 don't remember the bandwidth.. but will have no trouble covering either the novice or lower section for CW.. I have used this aantenna extensively with MFJ QRP rigs (20-30-40 meter) and have had no problems making contacts.. I have found the 1/2 wave version performs much better than the 1/4 wave.

* CQ April 1992 p 38.. by Bruce Auld, NZ5G

I wrote about the modified version with a MFJ 20 meter in Feb. 1993 QST .. new ham section

73

Jeff, AC

Date: Wed, 13 Apr 1994 16:18:19 GMT
From: agate!howland.reston.ans.net!vixen.cso.uiuc.edu!sdd.hp.com!hp-cv!hp-pcd!hp-vcd!jrhodes@ames.arpa
Subject: Getting ladder line out of the shack
To: ham-ant@ucsd.edu

Date: Wed, 13 Apr 1994 16:32:20 GMT
From: agate!howland.reston.ans.net!vixen.cso.uiuc.edu!sdd.hp.com!hp-cv!hp-pcd!hp-vcd!jrhodes@ames.arpa
Subject: Getting ladder line out of the shack
To: ham-ant@ucsd.edu

Date: 12 Apr 94 19:56:33 GMT
From: agate!howland.reston.ans.net!europa.eng.gtefsd.com!emory!news-feed-2.peachnet.edu!ukma!netnews.wku.edu!wkuvx2.wku.edu!scottcr@ucbvax.berkeley.edu
Subject: GR 1606 Bridge (looking for)
To: ham-ant@ucsd.edu

I am looking for a General Radio (GR) model 1606 (A) or (B)
impedance bridge. Those knowing the whereabouts of this
instrument are requested to e-mail me.

WB9NEQ
--
SCOTTCR@WKUVX1.WKU.EDU aka Chris Scott- C/E Public Radio- Western KY U
                      Telco: (502) 745-3834 Hm & Fax: (502) 781-1232
...just another insignificant VAX user.   \\\//
                                               (o o)
--ooO-(_)-Ooo-----------------------

Date: 14 Apr 94 03:21:37 GMT
From: agate!ihnp4.ucsd.edu!library.ucla.edu!news.ucdavis.edu!csus.edu!netcom.com!potaczek@ucbvax.berkeley.edu
Subject: HF in an apartment
To: ham-ant@ucsd.edu

I need to get some advice on the best type of antenna to work 40 and or
80 meters Cw out of my apartment. (besides moving out!!!).

I have a MFJ 949D tuner and and Icom 728. Recently got my tech plus.

Is a random length of wire a good idea? What is the best length for these
bands. What about 1/4 wave dipoles? Is there such a thing as a short
dipole antenna? What about homemade coils or loops?

I have about 30 to 40 feet of room to put an antenna on the face brick of an old 30's vintage apartment building. Am I going to run into a TVI nightmare? I knopw experimentation is the key, any guidance on more likely to succeed antennas for my situation will be welcome. Post to my e-mail address or if general interest to this file.

Thanks

Joe Potaczek
(no call, still waiting for the mail from gettysburg. . .)

Date: 13 Apr 94 16:41:20 GMT
From: sdd.hp.com!col.hp.com!jwc@hplabs.hp.com
Subject: High Alt. Ant Site NOISE
To: ham-ant@ucsd.edu

  We operate a repeater site near 14,000ft with high winds, blowing (dry) snow, snow pellets, lightening and rain. All the elements for lots of electrical noise.
  Presently we are using a Diamond X50 (2 & 70cm repeaters). It seems as if we are getting much more noise lately. We can't equate exactly to the installation of the X50 due to some other changes and the seasonal changes here. Typically there is less noise in late fall and early winter.

  We don't have near as much "icing" as does Mt. Washington in New Hampshire, where they use 6" diameter PVC to cover their antenna.

 Would like to see a discussion as to best way to keep static noise out of a repeater reciever.

  de John, N0KIC   COLO>

Date: 13 Apr 94 17:45:24 GMT
From: dog.ee.lbl.gov!ihnp4.ucsd.edu!news.acns.nwu.edu!firewall!ceco!
root@ucbvax.berkeley.edu
Subject: Temporary HF Mobile ant?
To: ham-ant@ucsd.edu

Chris,

I use a temporary mobile HF setup on my Caravan when I go on vacations. I use a 2 by 4 board that has holes drilled at the ends to allow U bolts to pass through. The U bolts

are used to hold the board to the roof rack side rails. On the board, I mounted 2 ball
mounts and SO239 connectors to allow the 2 coax cables to connect rapidly to the 2 antennas. I use 2 Hustler MO4 masts (the short ones), each with a 3 resonator adapter.
I use 3 Hustler resonators on each mast which allows for 6 band coverage, in my case,
10, 12, 15, 17, 20, and 40 meters. I run the 2 coax cables into the Caravan and use
the antenna switch of my MFJ tuner to switch. I also use the Hustler quick disconnect
adapters for the masts. If you mount the ball mounts at the end of the board, you should have enough clearance between resonators so they don't hit each other.

To provide a ground connection at the SO239 connector, I have tried running a wire between the 2 connectors and the chassis of the van and used a C-clamp type of ground
connector that you can get for conduit. You could also drill a hole to connect the
wire, but I have never done that. This scheme worked but I was having too many RF bites so I am now using a wire connected to an old mag mount base from an old 2 meter antenna and use the capacitive coupling. It seems to work great. I use this mag mount
setup for each ball mount.

An alternative to using the board is to use one roof top carrier that you can get at
the auto parts stores.

I also mount the radio and tuner (I have fine tuned the antennas, so the tuner just
helps keep things tame) on a board setup (looks like an upside down T) that has mobile
mounts installed. The board slides between the 2 front seats. The only thing left
permanent is the DC power cable (which I curl up and hide when not used).

I have used both the Kenwood TS130s and TS140s mobile.

Good luck and see you mobile sometime.

73,

Charlie Sufana AJ9N

Date: 13 Apr 94 13:25:26 -0600
From: olivea!charnel!charnel.net.csuchico.edu!nic-nac.CSU.net!usc!
howland.reston.ans.net!europa.eng.gtefsd.com!darwin.sura.net!atlas.tntech.edu!
jmg@ames.arpa
Subject: Temporary HF Mobile ant?DIR
To: ham-ant@ucsd.edu

In article <1994Apr11.092742.1@miavx3.mid.muohio.edu>,
clmorgan@miavx3.mid.muohio.edu (Carl Morgan) writes:
> In article <2o7ml6$cck@pace2.cts>, cdsorens@mtu.edu (Christopher D. Sorensen)
writes:
>> Can anyone give some suggestions for a temporary mobile HF antenna. I will
>> be borrowing a car from the company I work for to use on my trip to Dayton
>> and would like to work HF on the way down. I have never worked HF mobile
>> because I didn't have a suitable rig untill now. I have an FT890 with the
>> automatic tuner.
>>
>> Can anyone reccomend a decent antenna for probably 40meters? or whatever
>> band is best for HF mobile. The installation must be temporary and not do
>> any damage to the car. (Ie: No big scratches)... I will probably be
>> picking up a good HF mobile antenna at Dayton for my personal vehical
>> but would sure like to get something on the air for the trip down.
>>
>> Any suggestions would be greatly appreciated!
>>
>> 73, Chris -=- N8PBI
>>
>
>
> I like the "Ham Stick" ($20). It is single-band, low wind load, inexpensive,
> and it works. Look-alikes are available ($14-$20) in many ham outlets.
>
> There are magnet bases, however I've never used one. The mount I use is
> home made, clamps under the rear bumper, and works reasonably well. Does
> better on higher bands than 40 but does reasonably well on 40. Haven't
> tried 75.
>

I recently did an article on HF mobile. I found the Ham sticks to work very
well and you can't beat the price. For a temporary mount.. Lakeview makes a
Magnetic mount that works very will ..think it is about $35.. I have used this
setup when I had to borrow a company van on a trip.. took a few minutes to set
up and worked fine the whole trip.

73

Jeff, AC4HF

Date: 14 Apr 94 03:09:23 GMT
From: dog.ee.lbl.gov!agate!msuinfo!news.mtu.edu!news.mtu.edu!not-for-mail@ucbvax.berkeley.edu
Subject: What to do for RF Ground?
To: ham-ant@ucsd.edu

I have my station on the second floor of my house and unfortunatly there is no water pipes or anything of the sort for a decent RF ground.

I have been told continuously that the run to the earth ground must be short for it to be effective. Would it be ok to have a pipe driven in the ground outside just as though I had a groundfloor station and just run the ground wire down outside to the ground rod? Or would this just be a waste of time?

I don't get any bites, but I would sure like to have a good rf ground system. especially when I eventually run more power.

Any info appreciated.

Chris -=- N8PBI

Date: Wed, 13 Apr 1994 14:24:58 GMT
From: sgiblab!swrinde!emory!wa4mei!ke4zv!gary@ames.arpa
To: ham-ant@ucsd.edu

References <2oedg8$gff@hpchase.rose.hp.com>, <2oehga$5gc@charm.magnus.acs.ohio-state.edu>, <2oej7h$poq@paperboy.gsfc.nasa.gov>º
Reply-To : gary@ke4zv.atl.ga.us (Gary Coffman)
Subject : Re: Getting ladder line out of the shack

In article <2oej7h$poq@paperboy.gsfc.nasa.gov> lvn@cen.com (Larry Novak) writes:
>Content-Transfer-Encoding: 7bit
>
>I use a similar technique to get my coax and ground wires out of the
>shack, but I'd hate to tell you how much plastic I cut to size and then
>shattered trying to drill/punch/cut holes in it. I finally resorted to
>melting holes thru it with my soldering iron! Does anyone have any good
>suggestions about how to stop this stuff from cracking when you're
>putting holes in it?

Use tape inside and out, clamp the piece to a wooden backing block, and drill slowly.

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | uunet!rsiatl!ke4zv!gary
534 Shannon Way | Guaranteed! | emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244 | |

Date: Wed, 13 Apr 1994 16:47:49 GMT
From: ihnp4.ucsd.edu!agate!howland.reston.ans.net!europa.eng.gtefsd.com!
uhog.mit.edu!news.kei.com!world!dts@network.ucsd.edu
To: ham-ant@ucsd.edu

References <1994Apr12.160944.2962@eisner>, <hO+sC1U.brunelli_pc@delphi.com>,
<hW5PC9R.cecilmoore@delphi.com>
Subject : Re: Is that all there is to a G5RV?

In article <hW5PC9R.cecilmoore@delphi.com> Cecil Moore <cecilmoore@delphi.com>
writes:
><brunelli_pc@delphi.com> writes:
>
>>It is not a magic device, and will not cure a poor location,
>>undersized tuner, or shaky finals. It will get you on the air
>>and that is what it is all about.
>
>G5RV, himself, said in his latest articles to ELIMINATE THE COAX. He
>admits that the coax was probably a mistake and that the "tuned feeder"
>is only tuned to 20m. Otherwise, it is simply a transmission line trans-
>former that transforms the impedence to something far away from 50 ohms.
>Call it a G5RV, non-resonant, Zepp, dipole, ...whatever. It has a high
>SWR on almost all bands except 20m so use as near lossless transmission
>line as possible. Look at the SWRs measured on a standard G5RV by Bill
>Orr, W6SAI, in the Nov '92 issue of CQ. But don't let him lead you down
>the Primrose Path when he says, "a portion of the flat-top is folded back
>into the 300 ohm line" or "assuming no losses in the transmission line".
>Both of those quotes are myths. If the transmission line currents are
>balanced, one cannot fold part of the antenna back into the transmission
>line and all transmissions lines have losses. The losses in ladder-line
>are usually neglible. The losses in coax are often not neglible.
>
>Sorry if I sound like a broken record... record? what's that?
>
>73, KG7BK, CecilMoore@Delphi.com

A bit like a broken record :-). Using ladder line into the shack is not
an option for all people. The G5RV antenna IS workable with coax, and
in this configuration it provides a VERY good grab-and-go antenna for
field day and emergency use.

The coax line losses depend on:

1. What Kind of Coax (I use RG8X or RG8 variants such as RG214 for HF).

2. The Length of COAX.

3. The operating frequency.

On 80 meters, with 35 feet of coax, using reasonably decent coax, you're
not talking losses so great that you'd be noticed as being stronger or
weaker at the other end.

--

Daniel Senie   Internet: dts@world.std.com
Daniel Senie Consulting   n1jeb@world.std.com
508-779-0439   Compuserve: 74176,1347

Date: Wed, 13 Apr 1994 16:37:15 GMT
From: agate!howland.reston.ans.net!europa.eng.gtefsd.com!news.umbc.edu!eff!
news.kei.com!world!dts@ames.arpa
To: ham-ant@ucsd.edu

References <1994Apr11.044227.16923@wmichgw>, <2oe30u$csj@search01.news.aol.com>,
<2of1tp$23g@herald.indirect.com>u
Subject : Re: ---TUNER ADVICE NEEDED---

In article <2of1tp$23g@herald.indirect.com> kg7bk@indirect.com (Cecil Moore)
writes:
>JimN0OCT (jimn0oct@aol.com) wrote:
>
>: As for baluns, avoid core baluns at all cost. Use a "ferrite core over coax"
>: or what is also known as a W2DU balun--they won't saturate.
>: good luck & 73, de JimN0OCT
>
>Jerry Sevick's recent balun articles in CQ would tend to disagree with you.
>I personally cannot decide which is better, ferrite cores over coax, voltage
>core baluns, or current core baluns. I've got one of each and they all
>perform well.
>
>73, Cecil, kg7bk@indirect.com
>

I am partial to the ferrites threaded over coax approach myself. I find these

are QUITE simple to construct. I get the ferrites in quantity from Amidon, and thread them over the feedline as I am making up the feedline for the antenna. For HF antennas, I use #77 material. For HF dipoles I usually feed with RG8X to a remote switching box. There are some nice sized ferrites that are 1 inch long that just fit over RG8X. I have found this approach to baluns very workable and they seem to perform well.

My dipoles are never evenly hung over the ground (trees don't always permit that). As I understand it, current baluns are preferable especially in situations where the antenna might not be perfectly balanced (different height above ground, different type of soil, etc. affect things).

Dan N1JEB

--

Daniel Senie Internet: dts@world.std.com
Daniel Senie Consulting n1jeb@world.std.com
508-779-0439 Compuserve: 74176,1347

Date: Wed, 13 Apr 1994 16:41:31 GMT
From: agate!howland.reston.ans.net!europa.eng.gtefsd.com!news.umbc.edu!eff!news.kei.com!world!dts@ames.arpa
To: ham-ant@ucsd.edu

References <2oe30u$csj@search01.news.aol.com>, <2of1tp$23g@herald.indirect.com>, <2of9rq$6po@auggie.CCIT.Arizona.EDU>f
Subject : Re: ---TUNER ADVICE NEEDED---

In article <2of9rq$6po@auggie.CCIT.Arizona.EDU> hlester@nelson.as.arizona.edu (Howard Lester) writes:
>In article <2of1tp$23g@herald.indirect.com> kg7bk@indirect.com (Cecil Moore) writes:
>>Jerry Sevick's recent balun articles in CQ would tend to disagree with you.
>>I personally cannot decide which is better, ferrite cores over coax, voltage
>>core baluns, or current core baluns. I've got one of each and they all
>>perform well.
>
>My experience with current baluns is they don't work well with typical tuners;
>voltage baluns work much better. For "center insulators" of balanced antennas,
>however, current baluns are supposed to work much better than voltage ones
>(per Maxwell, at least).
>
>I'd mentioned once before I used a Radio Works "Remote Balun" (a current balun)
>with my MFJ 948 tuner, and it got awfully hot, and the swr rose nicely! I
>replaced all that with a bifilar wound FT-140-43 core INSIDE the tuner, and all

>works pretty well now, handling my 100 watts and high swr's.
>
>Howard

For a slightly different setup the ferrite sleeve-type balun is interesting:
I have noticed that rigs with the built-in tuners are capable of tuning
quite a good range of loads (sometimes despite what the specs say). One thing
though is that they seem to be sensitive to RF on the outside of the
shield more so than I'd have expected. Putting a few turns of coax through
a #77 or #43 donut close to the connection to the rig was quite effective
in curing this. One rig I saw this in was a friend's FT890. He was
trying to tune a 10 meter dipole on 40 meters (ugly, but doable). With
the donut there, no problem. Without, the tuner would just keep searching.

Dan

--

Daniel Senie   Internet: dts@world.std.com
Daniel Senie Consulting   n1jeb@world.std.com
508-779-0439   Compuserve: 74176,1347

Date: 13 Apr 94 21:34:34 GMT
From: hp-cv!hp-pcd!hp-vcd!jrhodes@hplabs.hp.com
To: ham-ant@ucsd.edu

References <2oedg8$gff@hpchase.rose.hp.com>, <Co7HAK.3FG@vcd.hp.com>,
<Co7Hxw.3zH@vcd.hp.com>≥Í
Subject : Re: Getting ladder line out of the shack

(My apologies to News readers for two null responses; my non-vi editor was
upset with the handoff from tin.)

There _is_ a trick to drilling acrylic without shattering it. You must
first slightly dull the cutting edge of the drill bit by stoning it with an
oil stone (knife sharpening stone). A .005-.010" bevel on the cutting edge
will prevent the bit from digging into the acrylic. The same stunt is
necessary when drilling brass.

For maximum strength in plastic, it is important to leave smooth holes with
no scratches or nicks -- these will rapidly crack under stress. Melting the
holes in with a soldering iron is not very esthetic, but results in a

high-strength hole. You should remove small nicks around the drilled hole edges with a larger drill bit. Hold the bit in your fingers and make one or two revolutions until you have a smooth chamfer .010-020" wide.

John AA7HL

End of Ham-Ant Digest V94 #103
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